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TITLE: ITEM DISPLAY SYSTEM

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ITEM DISPLAY SYSTEM

This application claims benefit of U.S. Provisional Application No. 60/402,354, filed August 9, 2002.

5 FIELD OF THE PRESENT INVENTION

The invention relates generally to systems that facilitate the display of items, such as in an open environment accessible to the general public. More particularly, the present invention relates to a type of display system adapted to a wide variety of product items such as sports trading cards or other collectibles, where the items to be
10 displayed may be securely contained within holding braces affixed to the modular shelving components. In an alternative embodiment, multiple modular shelves may be assembled together within a support structure. The system may also include a transportable carrying case.

15 BACKGROUND OF THE INVENTION

Individual collectors and dealers of sports trading cards gathering at meetings or conventions will oftentimes bring along selected examples from their personal trove of memorabilia as collectible items that may be of particular interest to those attending the exhibition, or to attract the attention of prospective buyers. Not uncommonly, such
20 collectors and dealers may exhibit their trading cards in loose-leaf binders. Each such binder typically has multiple separately removable pages, with each removable page containing a number of transparent insertion sleeves sized to accommodate the standard types of sports trading cards. More directly or immediately viewable display formats, where for example a row of sports trading cards might be placed in side-to-side
25 arrangement loosely on top of open display shelves, have not been considered practicable because of the risk of loss that would be incurred. It would therefore be desirable to have a display system whereby collectible items such as sports trading cards might be brought for exhibition before the general public, without imposing an unacceptable risk of damage or loss.

30 Many devices for organizing and storing sports trading cards may be found in the prior art. Among various types of cardholders designed to be used in conjunction with

loose-leaf binders are U.S. Patent No. 6,282,826 to Richards, U.S. Patent 5,186,566 to Cameron, and U.S. Patent No. 5,087,145 to Cooley. Such devices may serve as an economical means for storing and organizing a personal collection of sport trading cards, however they afford only minimal protection against the physical damage that
5 may tend to lessen the value of sports trading cards, which are oftentimes frayed or fragile at best. Furthermore, when sports trading cards are displayed to the public in such binders, the separately removable loose-leaf pages remain almost entirely unprotected from the risk of loss or left. There are also a considerable number of devices for containing individual sports trading cards individually within a hard-shell type
10 of enclosure, as found for example in U.S. Patent No. 5,522,163 to Neugebauer, or U.S. Patent No. 5,097,953 to Gingras. These examples of the prior art may provide better physical protection, but again offer only a slight margin of safety to lessen the risk of loss and damage.

U.S. Patent No. 5,394,996 to Carpenter discloses a card display device
15 described as having parallel mounting tracks disposed upon a vertically-oriented flat planar display panel. The mounting tracks are said to be made from a pliable material, that alternatively may include clip holding means on one of the parallel tracks, to accommodate insertion of sports trading cards contained within flat, rectangular cardholders. However, it is evident that the described invention does little to reduce the
20 risk that the cards may be lost, for example, due to theft. To the contrary, individual sports trading cards may be easily removed from the display, along with cardholders enclosing them.

U.S. Patent No. 5,259,517 to Pancoe similarly describes a card display rack having multiple parallel elongated rails disposed on a vertically-oriented display panel.
25 According to the specification, the device requires that the display panel have a pivotable attachment disposed at the vertical midline, and a surrounding rectangular frame that cannot accommodate more than one display panel, which is not removable from the frame. Displaying flat rectangular trading cards in such format affords little margin of added safety for protecting the product items to be displayed.

A need therefore exists for a system by which collectible items may be arranged and secured for display, and such that the items as secured may be easily and simply transported. The present invention satisfies that demand.

5 SUMMARY OF THE INVENTION

10 The present invention is a product display system that may be used advantageously in several respects, including for the display of collectible trading cards or other items to prospective buyers or to the general public. According to one embodiment, the display system of the present invention is comprised of one or more shelving modules, where the items to be displayed are secured shelving modules by a series of longitudinal holding braces disposed in parallel rows on at least one flat planar surface of each shelving module. In another embodiment, the shelving modules may be combined with a support structure, to form thereby a freestanding, open-front type of constructed display case. The support structure includes a number of support tabs
15 protruding slightly inwardly, disposed in such fashion as to permit one or more of the shelving modules to rest within the support structure at an angle tilted downwards from the horizontal, so that the portion of the display items closest to the individual observer is lower in view than the portion of the display items positioned on the shelving module at a more distal location, thus optimizing the viewable range or line of sight for the
20 product items displayed.

25 In both of the above-mentioned embodiments of the present invention, holding braces attached to the shelving modules serve to secure the display items conformably in place, thus maintaining the display items in their proper positional arrangement during the presentation period. Because the display items are tightly held within such holding braces, they are better protected against types of incidental damage, tampering or pilferage that might otherwise occur. With any embodiment of the display system, a carrying case is provided that is fitted to accommodate the shelving modules and the display items integrally combined therewith, and that may facilitate their secured storage and/or transportation.

30 Prior to the time for a scheduled presentation, items to be displayed may be stored in combination with shelving modules in the portable carrying case. When the

time for the scheduled presentation arrives, one or more of the shelving modules and the display items attached thereto may be removed from the carrying case and without further required preparation placed immediately on display. Thus, in one embodiment of the present invention, the display items may be secured to the shelving modules, with each module and the display items attached thereto exhibited as a separate piece. The display items intended for exhibition may advantageously be prepared prior to exhibition, by inserting them into the holding braces of a shelving module to secure their arrangement.

In a second embodiment, one or more shelving modules with the display items attached thereto may be combined with a freestanding support structure. The support structure with the shelving modules included may be situated for exhibition on the display floor or on the surface of a table or counter. With the shelving modules removed, the weight of the support structure can be easily carried as a separately transported unit. The support structure includes fixtures for fluorescent lighting to illuminate the enclosed interior, and may optionally include a clear front panel made from glass, acrylic plastic, or other transparent material. For either embodiment of the present invention, since the display items are pre-arranged in position and contained within holding braces disposed on the flat rectangular surface of the shelving module, there is a substantial reduction in the time and effort required to set up the presentation exhibit. When the scheduled presentation is completed, the disassembled shelving modules may be returned to the provided carrying case along with the display items attached thereto. The items intended for display may then be secured for storage within the carrying case, or transported to the next display presentation.

It is thus a primary object of the present invention to provide a product display system that affords an increased margin of safety for the secured exhibition of collectible items such as sports trading cards or other collectible items of value, where such collectibles or other valuable display items are presented for unobscured display in an open environment accessible to the public.

It is a further object of the present invention to provide a type of product display case that may be easily and rapidly assembled from its separate components by one person, without the requirement for special tools or skills.

5 As another important object, the present invention provides a portable type of system for product display that can be readily carried about, or transported without difficulty from one display location to the next.

As yet another important object, the present invention provides for a system of display that maximizes the number of items that may be included for open display, where only a limited amount of floor area or counter space may be available.

10 The present invention furthermore provides a display system where each of the individual display items can be made readily accessible to view, and where the arrangement of individual items on display can be easily modified, for purposes of presentation arrangement or to optimize their viewable exhibition. The display system of the present invention also provides capability for simple and efficient modification of
15 the display, whereby one or more of the display items may be replaced or repositioned, without causing an undue disruption of other display items.

In a preferred embodiment, a display system is provided to store, transport and display items. The display system includes a support structure generally in the form of a rectangular case, which serves as a support structure for one or more shelving
20 module. Each shelving module is a shelf-like unit including brackets or equivalent mechanism for securely holding one or more item for display. The shelving modules installed into the support structure comprises in combination a display system. In another embodiment, the shelving modules may be assembled within a freestanding, open-front support structure. Both of these embodiments provide a secured means for
25 open viewing of the items, and furthermore provide a means whereby the presentation arrangement may be revised or modified without complication, either before or during the exhibition period. The shelving modules with display items attached thereto, may be secured within a fitted carrying case, to accommodate their storage and/or transportation.

These and other objects and advantages of the present invention will become apparent from the following detailed description, and from the accompanying drawings wherein similar enumerated referents indicate corresponding parts of the present invention associated therewith.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front isometric perspective illustrating a display system of the present invention, with shelving modules disposed to angle forward from the horizontal.

Fig. 2 shows a cross-sectional top view illustrating details of the right-front corner of the support structure.

Fig. 3 is a side elevation of the display system shown in Fig.1, illustrating the shelving modules angled towards the front open side of the support structure.

Fig. 4 is a top view of the display system, showing a single shelving module for purposes of illustration, with flat rectangular cards securely attached between parallel rows of holding braces affixed to the flattened shelving module.

Fig. 5 is an edge view of one shelving module, with the parallel holding braces shown in cross-section.

Fig. 6 is an isometric drawing of a carrying case with additional detail shown in Fig. 7.

Fig. 7 is a side view of the carrying case.

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

Referring initially to Figs. 1 to 3, according to one embodiment of the present invention, a display system 8 includes one or more shelving modules 10, which may be combined in one embodiment with a support structure 20. The support structure includes a right side wall 22, a left side wall 24, and a back panel 26 joined in a generally rectangular construction. The back panel 26 may be a door. Each of the sidewalls 22, 24 have a rear edge 23 and a top edge 25. The support structure 20 of the present embodiment includes several inwardly extending tabs 18, which function as slides for the shelving modules 10.

One or more shelving module 10 may be inserted into the support structure 20; with its weight supported by runners 49 thereby to form, in combination, a display system 8 (see Fig. 3). The topmost inserted modular shelf 10A forms the uppermost or highest surface of the display case, and the lowermost modular shelf 10E forms the bottom surface.

In one embodiment, the support structure 20 includes three quadrangular panels that comprise the outer walls of the right and left sidewalls 22, 24 and the back door 26 of the support structure 20, and three quadrangular panels that comprise the inner walls of the right and left sidewalls 22, 24 and the back door 26. The outer walls of the right and left sidewalls 22, 24 and the back door 26 are preferably made from a medium density fiberboard material having a thickness of approximately .25 inches with a finished application. Size dimensions of the support structure 20 may be somewhat variable according to usage and preference, but would ordinarily be approximately two to four feet in length on each orthogonal dimension.

As shown in the detail of Fig. 2, the right and left sidewalls 22, 24 and the back door 26 of the support structure 20 are held together by an elongated corner support 31 having right-angled flange elements 32 that together define two parallel insertion slots 33, 35. The elongated corner support 31 may be made with a manufacturing process that uses a single die cut for extrusion molding. Four of the corner support members 31 are required for joining the rectangular panels (22, 24 and 26) together. In one embodiment, the left and right sidewalls, 22, 24, are made of two layers or panels of material. For example, the two layers of material may include an outer wall 27 and an inner wall 29. The outer walls 27 may be made from fiberboard panels and may be fitted into a first insertion slot 33 formed at one terminal end of the elongated corner support 31. A second insertion slot 35 is defined by flange elements 32 of the elongated corner support 31, just adjacent to the first insertion slot 33. The second insertion slot 35 is sized to accommodate the thickness of a the flat rectangular panels that comprise the inner walls 29 of the support structure 20, and that may preferably be made from a white laminated melamine or other appropriate type of material. The three flat rectangular panels of the inner walls, when fastened together, provide the support

structure with additional mechanical sturdiness and solidity. It will be understood that other suitable methods of constructing the support structure 20 are contemplated.

As also shown in the detail of Fig. 2, the elongated corner support 31 is formed to include a support bracket 37 that accommodates attachment of a light fixture 4, held by bracket 6, preferably a T-5 fluorescent bulb 1 or other type of low-profile light source. The white or chrome interior surface of the inner cabinet wall, made from a laminated melamine material, advantageously reflects the emitted light towards the shelving modules 10 and towards the items displayed therein. The diagrammatic illustration of Fig. 2 also shows the elongated corner support 31 having two parallel flange elements 39a, 39b disposed at a terminal end opposite from and perpendicular to the two adjacent slots 33, 35 fitted for the structure wall panels. These two parallel flanges 39a, 39b define an insertion slot 41 fitted to accommodate the thickness of a transparent front panel that typically may be made from glass or a clear acrylic plastic material. Such transparent front panel that may be interposed between the right and left side walls 22, 24 of the support structure 20 is considered optional to this embodiment of the present invention.

As illustrated in the drawing of Fig. 3, another important aspect of this embodiment of the present invention involves designing the support structure 20 so that the shelving modules 10 (A-E) may be positioned to rest at an angle within the support structure 20, tilted slightly downwardly relative to a horizontal plane H toward the front 21 of the support structure 20, thus to provide an greater margin of visibility for display items attached to the surface of the shelving modules 10. For example, the shelving module 10A is oriented horizontally. Shelving module 10B may be tilted a first angle B, which may be about 2 degrees from the horizontal H. Shelving module 10C may be tilted a second angle C, which may be about 5 degrees from the horizontal H. Shelving module 10D may be tilted a third angle D, which may be about 7 degrees from the horizontal H. Shelving module 10E may be tilted a fourth angle E, which may be about 11 degrees from the horizontal H. With the shelving modules 10A-E so disposed, the range of visible lines of sight are improved for an individual observer standing in front of the display and viewing product items. Further, the front 21 of support structure 20 may be slightly tilted back from the vertical for viewing convenience. Moreover, the distance

between adjacent modules 10 may be increased where the lowermost pair (10E, 10D) are separated by the greatest distance with the next adjacent pair (10D, 10C) being separated by a lesser distance and so on to maximize the viewability of each of the modules 10.

5 The drawing of Fig. 4 illustrates one of the shelving modules 10, as seen from a top view, and shows the multiplicity of holding braces 28 affixed to at least one flat surface of the shelving modules 10. The braces 28 may be affixed to the surface of the shelving module 10 by any suitable method including for example, a suitable type of adhesive. Although the holding braces 28 as shown in the drawing are disposed in an
10 evenly spaced and generally parallel configuration, it should be understood that alternative arrangements or configurations for the holding braces 28 may be preferred corresponding to the item to be attached thereto. Importantly, the holding braces 28 serve to stably confine the display items within their prepared arrangement. The holding braces 28 furthermore provide the display system of the present invention with an
15 improved capability for secured display in an open, publicly accessible environment.

As shown in the detailed illustration of Fig. 5, the holding braces 28 may be constructed as elongated I-beams and positioned in a spaced configuration on a substrate 64. The substrate 64 may be fiberboard or hardwood or any suitable material. The spacing between the braces 28 on the substrate 64 may be changed to
20 accommodate different sizes of items to be displayed. Each brace 28 contains two longitudinal grooves 60, 62. The specific size, shape and spacing of the holding braces 28 may be revised or modified as required for display of the items selected. For example, the longitudinal grooves 60, 62 may be modified to define a different channel size, in order to accommodate capture of a thicker or thinner type of display item.

25 In another embodiment of the present invention, the shelving modules 10 may be considered as a separately definable entity, whereby items for display may be prepared in advance and securely arranged within the holding braces 28 of the shelving modules 10 for later public exhibition. According to this embodiment, the display of items as contained within the shelving modules 10 may be accomplished without the requirement
30 for placing the shelving modules 10 within a separate support structure.

In both embodiments, the shelving modules 10 together with the display items prepared for exhibition may be removed for secured storage and/or transport, as contained in the portable carrying case 40 unit shown in the drawings of Fig. 6 and Fig. 7. The carrying case 40 holds multiple shelving modules 10, each shelving module held in parallel alignment within the carrying case 40 by a plurality of the slotted notch dividers 42.

The carrying case 40 can also serve as another embodiment of a support structure 20. As shown in Figs. 6 and 7, the carrying case comprises in part a first side wall 44, a second side wall 46 and a back wall 48. Slotted notch dividers 42 may be disposed on both the first and second side walls 44, 46, and arranged such they provide support for shelving modules 10 much like the previously described tabs 18 support shelving modules 10 in the previously described support structure 20. The carrying case 40 can be opened at back wall 48, and a shelving module 10 can be inserted into the carrying case 40 in a similar fashion to the way it is inserted into a support structure 20. The slotted notch dividers 42 are positioned within the carrying case 40 such that when the shelving modules 10 are in a display mode inside the carrying case 40 (rather than a storage mode), the shelving modules are at an angle, tilted slightly forward as in Fig. 3, or relative to a central plane, thus providing a greater margin of visibility for display items attached to the shelving modules 10. Portions of the carrying case 40 that interfere with the visibility of the shelving modules 10 may be movable to a position in which they no longer interfere. The front wall 50 of the carrying case 40 may be removable or made of a clear plastic or glass material such that shelving modules 10 with display items thereon can be seen through the front wall 50.

The shelving supports are clear and the shelving modules 10 may be formed of a clear material to facilitate the maximum illumination of the display items.